National Institute of Environmental Health Sciences

Minimization of heatwave morbidity and mortality

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Abstract:

Global climate change is projected to increase the frequency and duration of periods of extremely high temperatures. Both the general populace and public health authorities often underestimate the impact of high temperatures on human health. To highlight the vulnerable populations and illustrate approaches to minimization of health impacts of extreme heat, the authors reviewed the studies of heat-related morbidity and mortality for high-risk populations in the U.S. and Europe from 1958 to 2012. Heat exposure not only can cause heat exhaustion and heat stroke but also can exacerbate a wide range of medical conditions. Vulnerable populations, such as older adults; children; outdoor laborers; some racial and ethnic subgroups (particularly those with low SES); people with chronic diseases; and those who are socially or geographically isolated, have increased morbidity and mortality during extreme heat. In addition to ambient temperature, heat-related health hazards are exacerbated by air pollution, high humidity, and lack of air-conditioning. Consequently, a comprehensive approach to minimize the health effects of extreme heat is required and must address educating the public of the risks and optimizing heatwave response plans, which include improving access to environmentally controlled public havens, adaptation of social services to address the challenges required during extreme heat, and consistent monitoring of morbidity and mortality during periods of extreme temperatures.

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Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Public

Exposure : ☑

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States, United States

Non-United States: Europe

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, General Health Impact, Injury, Morbidity/Mortality, Other Health Impact

Cardiovascular Effect: Stroke

Other Health Impact: Heat exhaustion

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status, Racial/Ethnic Subgroup, Workers

Other Racial/Ethnic Subgroup: African Americans

Other Vulnerable Population: Urban residents; people with chronic diseases; socially or geographically isolated populations; outdoor sports participants; people living in normally cool climates

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content